STORAGE DEVELOPER CONFERENCE

SDC 23

BY Developers FOR Developers

SFF TA evolution as seen from the Opinionated Experts

MC:

John Geldman, Director of Standards, Kioxia

Panelists:

Mike Allison, Senior Director - Standards, Samsung

Paul Coddington, Mechanical Engineer, Amphenol

Anthony Constantine, Principal Engineer, Intel

Panelists

- John Geldman is a Director of SSD Industry Standards at KIOXIA. John is also a Member of the Board of Directors of NVM Express. John is currently an active contributor to NVM Express, INCITS T10, INCITS T13, JEDEC, OCP, PCI-SIG, SATA IO, SNIA, and IEEE SISWG. John has had corporate leadership responsibility for standards for multi-billion dollar storage vendors since 2011. He has been involved in storage standards since 1992, with an early introduction to standards that included the transition from X3T9 to T13 (ATA) and T10 (SCSI), as well as the transition from PCMCIA to CardBus. John has been an active FMS CAB member for at least 10 years.

- Mike Allison is a Senior Director in the Samsung DSA Product Planning and Business Enablement team focusing on standards for existing and future products. He has been a participating member of NVM Express® (NVMe) since 2016, chair of the new NVMe Errata Task Group, co-author of many technical proposals, author of many ECNs, and the principle editor for NVM Express Base Specification 1.4 initial release. For over 38 years, Mike has been an embedded firmware engineer and architect working on systems and simulations for laser beam recorders, fighter aircraft, graphics cards, high end servers, and is now focusing on Solid State Drives. He holds 31 patents in graphics, servers, and storage. He has earned a BSEE/CS at University of Colorado, Boulder.

- Paul Coddington is a Mechanical Engineer for the Amphenol Corporation working in standards development primarily for the Amphenol Communications Solutions and Amphenol Global Interconnect Systems businesses. In this role, Paul is involved in several industry standards and associations in the server/storage market space, including the INCITS/SCSI Technical Committee, the SCSI Trade Association, the INCITS/Fibre Channel Technical Committee, several Work Groups within PCI-SIG®, the Compute Express Link™ (CXL™) Consortium, and the SNIA SFF TA TWG where Paul serves as Co-Chair, Treasurer, and Editor of several SFF specifications. Prior to this role, Paul worked as an Interconnect Design Engineer at Amphenol for about 10 years and prior to that as a Product Design Engineer for another 10 years. Paul earned a Bachelor of Science degree in Mechanical Engineering from the Rochester Institute of Technology (RIT).

- Anthony Constantine is a Principal Engineer at Intel, where he focuses primarily on driving innovation to memory and storage from mobile to datacenter. He is the author for several EDSFF specifications and contributes to other SFF TA specifications within the Storage Networking Industry Association (SNIA). He also serves as co-chair on the SFF TA and is on the SNIA Technical Council. In addition, Anthony contributes to PCI-SIG, JEDEC, Open Compute Platform (OCP), and the Open NAND Flash Interface (ONFI). Anthony has over 23 years of experience in the technology industry with an expertise in memory, storage, physical interfaces, low power technologies, and form factors. He earned a BS in Electrical Engineering from UC Davis.

Open Topics for Today's BoF

- Suggested Topics to ask about:
  - SFF's 10 new projects
  - The 14 specs being revised by SFF
  - EEPROM Organization: IPMI vs. OIF CMIS spec: How do we get along?
  - I3C status
  - Future projects (PCIe 7.0 support, PCIe Optical support)
  - Others…
- Topics you want SFF to address

This is interactive: Please Ask Us Questions

What specifications are Being Revised?

Opinionated Expert listed

- SFF-8024: SFF Module Management Reference Code Tables (Paul)
  - Additional codes, IDs, other progress
- SFF-8419: SFP+ Power and Low Speed Interface (Paul)
  - Editorial, I2C FM, other definitional additions
- SFF-8472: Management Interface for SFP+ (Paul)
  - Adding registers for latency and management
- SFF-8613: Mini Multilane 4/8X Unshielded Connector (HDun) (Paul)
  - Errata fixes, clarifications, editorial
- SFF-8665: QSFP+ 28 Gb/s 4X Pluggable Transceiver Solution (QSFP28) (Paul)
  - Reference additions
- SFF-8679: QSFP+ 4X Hardware and Electrical Specification (Paul)
  - Additional test methods

Opinionated Expert listed

What specifications are Being Revised (Cont'd)?

- SFF-8690: Tunable SFP+ Memory Map for ITU Frequencies (Paul)
  - Register additions, self tuning bits, references, clarifications.
- SFF-TA-1002: Protocol Agnostic Multi-Lane High Speed Connector (Anthony)
  - PCIe 6.0 support, additional straddle thickness ,errata
- SFF-TA-1008: Enterprise and Datacenter Standard Form Factor (E3) (Mike)
  - Addition of NIC sidebands, 2x1C, clarifications
- SFF-TA-1009: Enterprise and Datacenter Standard Form Factor Pin and Signal Specification (EDSFF) (Mike)
  - PCIe 6.0 support, CXL LED, clarifications
- SFF-TA-1020: Cables and Connector Variants Based on SFF-TA-1002 (Anthony)
  - Additional sizes, additional thickness, errata
- SFF-TA-1026: Storage System High Speed Cable Interconnect (Paul)
  - Dual bay addition, errata, clarifications
- SFF-TA-1027: QSFP2 Connector, Cage, & Module Specification (Paul)
  - Additional footprint, alternate latching, 224G support

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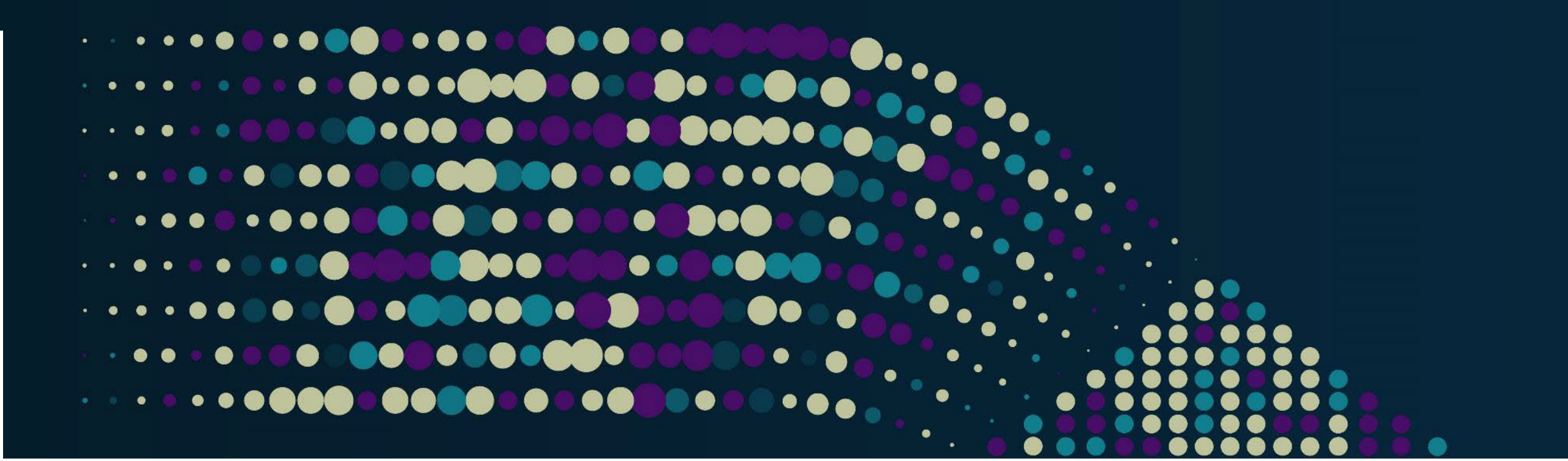
What New Projects Are We Working On?

Opinionated Expert listed

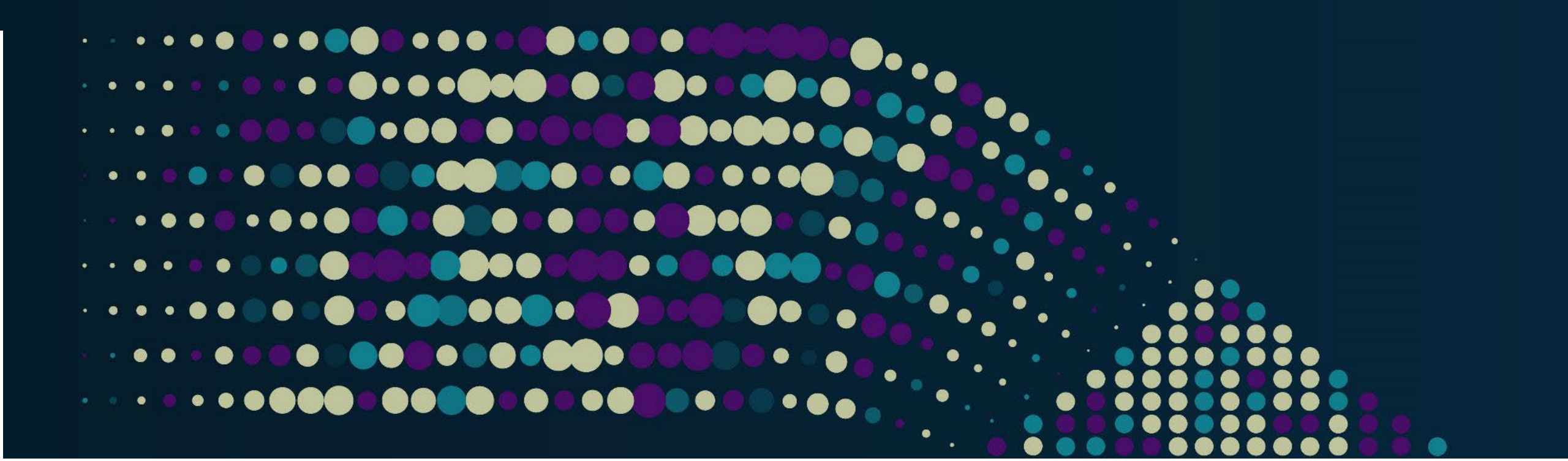
- SFF-TA-1024: Test Procedure for SFF-TA-1016 Mated Cable Assembly (Paul)
- SFF-TA-1029: Cabled QSFP Cage & Connector (Paul)
- SFF-TA-1032: Multi-lane External High Speed Cable System (Paul)
- SFF-TA-1034: Pluggable Multi-Purpose Module (Anthony)
- SFF-TA-1035: Next Gen High Speed Cable Connector System (Paul)
- SFF-TA-1036: Cable Optimized Boot Peripheral Connector (Paul)
- SFF-TA-1037: Connectors For Pluggable Multi-Purpose Module (Anthony)



Closing Comments

Want to Get Involved?

- Benefits:
  - Participation into development of SFF specifications, information documents, and reference guides
  - Ability to open new projects
  - Access to all presentations, all drafts, prior publications, and supplemental material relevant to all SFF projects
  - One of the lowest membership fees around ($1,500/year moving to **$1,200**/year in December)
- Resources:
  - How to Join: https://www.snia.org/sff/join
  - Public Site: https://www.snia.org/sff
  - Specifications: https://www.snia.org/sff/specifications
  - Questions about membership? Please send mail to membership@snia.org
  - Additional questions? Please send mail to sff_ta_twgchair@snia.org



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